KIT 2005

8. Kongress für Infektionskrankheiten und Tropenmedizin

IMMUNOGENICITY AND ANTIBODY PERSISTENCE OF FLUARIX™ vs. FLUAD® vs. INFLEXAL™ V IN THE ELDERLY

B. R. RUF, K. COLBERG, M. FRICK, A. PREUSCHE

Rationale:
Influenza vaccination is recommended especially for persons older than 60 years and those with health risk factors. In this context, a higher immunogenicity of the subunit vaccine FLUAD using the adjuvant MF 59 as well as a better immunogenicity and in addition to this a better tolerability of the virosome based subunit vaccine INFLEXAL V, versus influenza split vaccines has been stated several times.
The objective of thise study was to compare for the first time a trivalent influenza split vaccine to and adjuvanted subunit vaccine and a virosomal subunit vaccine in terms of their immunogenicity, reactogenicity and antibody persistence for an observational period of 12 months.

Methods:
Prospective, open, multi-centre, randomized comparative study on immunogenicity and reactogenicity of 827 persons 60 years of age or older not vaccinated during the influenza vaccination season 2002/2003.
Determination of haemagglutinin-inhibiting (HI) antibodies in the serum as GMT (95 % CI) as well as of the CPMP criteria: seroconversion rate (SR %), seroconversion factor (SF: n-fold increase of GMT) and seroprotection rate (SP %) before and after the vaccination either up to 12 months with FLUARIX* (GlaxoSmithKline), FLUAD (Chiron-Behring) or INFLEXAL V** (Berna Biotech).
* in Germany Influsplit SSW®
** in Germany Infectovac Flu

Results:
At day 28, the three vaccines exceeded the required CPMP criteria for influenza vaccines in elderly. Immunologically FLUARIX and FLUAD were superior for all parameters compared to INFLEXAL V. Compared to FLUAD, FLUARIX had a higher immunogenicity for H1N1 and a comparable immunogenicity for H3N2. For the strain B FLUAD showed the highest levels. Antibody persistence was also evaluated after 4 and 8 months respectively, and antibody titres remained within the protective range. At months 12 they were lower than 40 the considered protective level for strain H1N1 for Fluad and Inflexal V.
The tolerability of FLUARIX and INFLEXAL V were comparable; FLUAD showed a higher rate of local reactions (redness, swelling, pain). Clinically relevant systemic reactions were rare for all three vaccines. All tested vaccines were safe. No serious adverse event causally linked to vaccination was reported.

Conclusion:
The immune response elicited by the three vaccines clearly exceeded CPMP criteria for persons ≥60 years for each strain contained in the vaccine (A/H1N1, A/H3N2, B) at all time points up to month 8. At month 12 Fluad® and Inflexal™ V did not meet the CPMP criterion for seroprotection for strain H1N1.
GMTs induced by the trivalent influenza split vaccine were non-inferior to the adjuvanted subunit vaccine for strains A/H1N1 and A/H3N2 at all time points.

Antibodies remained at protective levels over 8 months for the three vaccines, ensuring protection during the entire influenza season. They fell slightly under the value of 40 regarded as being protective for Fluad and Inflexal V for strain H1N1 at month 12.
Overall, the trivalent influenza split vaccine Fluarix proved to be at least equal to MF-59 adjuvanted influenza subunit vaccine Fluad in terms of immunogenicity*. Fluarix™ and Fluad® proved to be more immunogenic than the virosomal influenza subunit vaccine Inflexal V™. This study has shown that newly developed vaccines, i.e. adjuvant and virosomal subunit vaccines, did not present any major advantage in terms of immunogenicity over the conventional trivalent influenza split vaccine, as shown with Fluarix